

Unit Planning – Pre-Planning Worksheet – #1

Directions: List out all the key concepts and skills you might want the students to learn in this unit.

Possible Concepts:

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Possible Skills:

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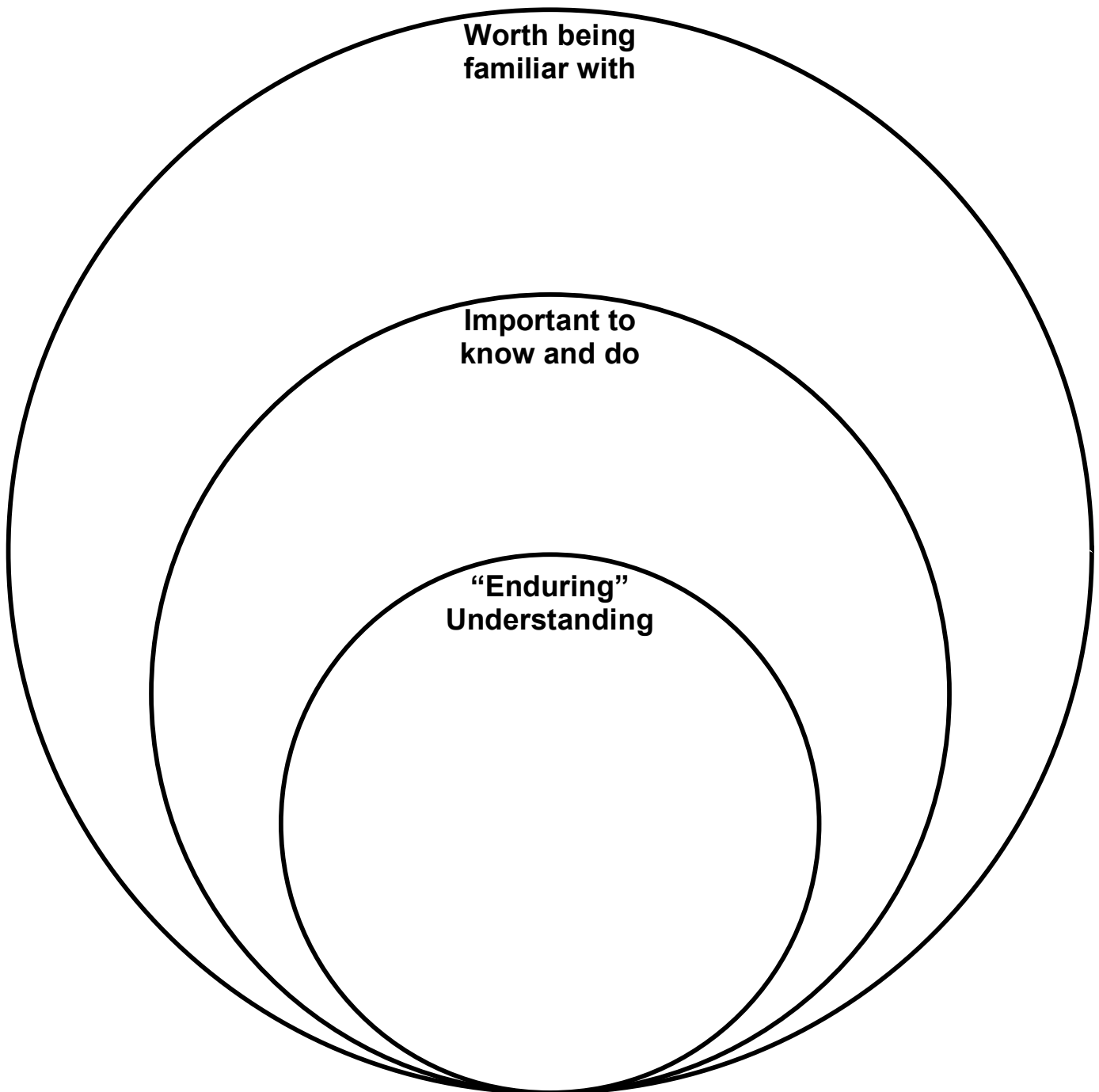
Directions: Brainstorm possible assessments. Don't worry about details yet! Besides the standard tests and quizzes, consider some of the following evaluation methods: informal observations/discussions, one minute questions, portfolios, peer review, one sentence summaries, student generated quiz questions, journals, student performances (speeches, plays, radio shows, debates, etc), graphic organizers, socratic seminars, experiments, interviews, conferences, electronic slide shows, models, museum exhibits, role playing, etc.

Possible Assessment Pieces:

- A writing piece
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Unit Planning – Prioritizing Objectives – #2

Directions: Wiggins and McTighe suggest using the graphic organizer below. Take your concept list from the pre-planning sheet and divide the content and skills into the three circles. The largest circle is for those concepts and skills that are worth being familiar with. The middle circle is for those concepts and skills that are important to know and be able to do. Wiggins and McTighe state, “Student learning is incomplete if the unit or course concluded without mastery of these essentials.” The central circle is for those concepts and skills that are deemed “Enduring” or “Big Ideas.” These are the concepts and skills that students should remember long after they have forgotten many of the details.



Unit Planning – Objectives & Question(s) – #3

Directions: Take the concepts and skills you end up with in the first two circles and reword them into objectives. According to Heidi Hayes Jacobs, the 5 attributes of a well-formed objective are:

- The Subject – who is the learner;
- An action verb – denoting the behavior requested;
- A product – the observable outcome of the activity;
- The conditions – or stipulations for specific activity;
- The evaluative standard – the criteria for an acceptable level of performance in terms of quality, quantity, or time.

Objectives:

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Essential Questions:

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Unit Planning - Question Traits

Essential Questions:

- Highlight the unit's key concepts
- Come from the top of Bloom's Taxonomy. They require students to:
 - Evaluate (make a thoughtful choice between options, with the choice based upon clearly stated criteria),
 - Synthesize (invent a new or different version) or
 - Analyze (develop a thorough and complex understanding through skillful questioning)
- Often require students to make a decision, solve a problem, or plan a course of action
- Spark students' curiosity
- Can become personally meaningful to students
- Often have no right answer and final answers may only be tentative
- Encourage diverse and personalized inquiry
- Answers cannot be found easily in a book. They must be constructed from the information gathered
- May take several weeks to answer

Subsidiary Questions

- Help answer essential question(s)
- Often include recall questions that provide factual information which is used to build the answer to the essential question(s)

Example:

Topic: Wetlands

Essential Question: Should wetlands in the United States be preserved?

Sub-questions:

- What is a wetland?
- What are the reasons for saving wetlands?
- Why are wetlands being destroyed?
- Who is destroying wetlands?
- How many of acres of wetlands exist in the United States?
- At what rate are wetlands being destroyed?
- What are the best methods for saving wetlands?

Unit Planning – Assessment Worksheet – #4

Directions: A single test or big project/task is not enough. Both formative and summative evaluation are important. (A simplistic definition for formative evaluation is: evaluation that occurs during the unit which is designed to help students and teachers determine how they are progressing for the purpose of improving student learning. Summative evaluation is: evaluation given at the end of the unit which is designed to assess students final understanding.) Plus, you need to provide opportunities to assess process and product through multiple means.

Formal	Formative	Formal	Summative
<ul style="list-style-type: none"> • • • • • • • 		<ul style="list-style-type: none"> • • • • • • • 	
Informal	Formative	Informal	Summative
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Unit Planning Format – #5

Title	Create descriptive label for unit.	
Time Frame	State the estimated time to complete the unit (class periods)	
Summary/Abstract	Give an overview of the unit.	
Essential Question(s)	List the Essential Question(s) guiding the unit.	
Tasks	State the main activities/tasks students complete during the unit.	
Standards/ Benchmarks	List the targeted state/district standards/benchmarks.	
Resources	Itemize the main materials, equipment, software, or media necessary to carry out the unit.	
Assessment	List the task(s) used for formal assessment. (See Assessment Worksheet) Provide the criteria/rubric(s) by which the student's product/performance will be evaluated.	
NCA Connection	Check all that apply <input type="checkbox"/> Writing <input type="checkbox"/> Problem-Solving <input type="checkbox"/> Technology	Explain how related to NCA goal(s) checked

Unit Planning – Checklist

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|-------------------------------------------------------------------------|---------------------------------------------|
| <input type="checkbox"/> Content Writing | <input type="checkbox"/> Eng. Tech |
| <input type="checkbox"/> Creative Writing | <input type="checkbox"/> Graphic Organizers |
| <input type="checkbox"/> Multiple Intelligences (variety of activities) | <input type="checkbox"/> Research |
| <input type="checkbox"/> Differentiation | <input type="checkbox"/> Media Center |
| <input type="checkbox"/> Ed. Tech | <input type="checkbox"/> Experiments |
| | <input type="checkbox"/> Reading Skills |

10 Steps to Designing an Effective Unit

These steps are intended to be used only as a guideline. Unit design is rarely a linear process, more often recursive and sometimes messy. The Unit of Practice model is the basic design for units in MACUL and Apple's Learning Interchanges. The Unit model was developed by Apple, the National Science Foundation, and the New American Schools Development Corporation.

The Big 3

- Identify desired results (what the students should know and be able to do at the end of the unit).
- Determine acceptable evidence for evaluating students' understanding.
- Select the learning tasks and instruction to effect that understanding.

The (Important) Details

- Choose a title for the unit.
- Write an invitation to the unit for the students.
- Determine where the activities will take place and the amount of time they require.
- Describe the ways students and teachers will interact during the activities.
- List the materials/ resources needed during the unit.
- Create a "snapshot" that summarizes the unit.

Evaluation

- Try it out, reflect on it, and revise it.

The Big 3

The Big 3 are the most important elements of a unit plan and have the most effect on whether the unit you design is engaging and worthwhile. They are also the most time consuming.

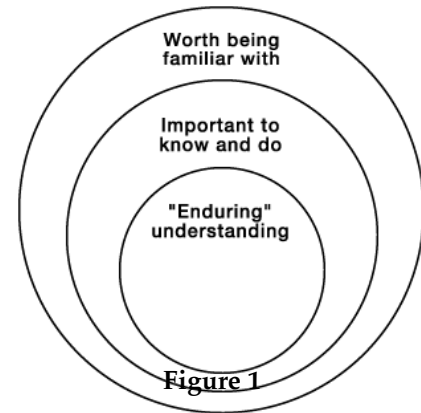
1. **Standards (Objectives)** – What do you want the students to know and be able to do at the conclusion of this Unit of Practice?

[A] Picking a topic is the first part and the easiest.

[B] Unfortunately, most of us cannot create a list of objectives or standards as easily. Often, we aren't even quite sure of what exactly we want our students to learn. One method of clarifying the possibilities prior to deciding which standards they fit is to first list out all the key concepts and skills we want the students to learn related to our chosen topic. Most likely, you will then be faced with the realization that, given the amount of time available for the unit, students cannot reasonably be expected to learn everything listed.

[C] Therefore, you need to establish your priorities. Wiggins and McTighe, in their book *Understanding by Design*, offer a method for setting priorities. They suggest

using a graphic organizer that contains three nested circles (see Figure 1). Take your list created in step 1.B and divide the content and skills into the three circles. The largest circle is for those concepts and skills that are worth being familiar with. The middle circle is for those concepts and skills that are important to know and be able to do. Wiggins and McTighe state, "Student learning is incomplete if the unit or course concluded without mastery of these essentials." The central circle is for those concepts and skills that are deemed "Enduring" or "Big Ideas." These are the concepts and skills that students should remember long after they have forgotten many of the details.



[D] With the graphic organizer representing your priorities, make a "best guess" as to how much of what is there can be accomplished in the amount of time you have available. (You will have to think a bit ahead to steps 2 and 3 to consider what tasks and assessment will be required to achieve these goals.)

[E] Take the concepts and skills you end up with and reword them into objectives. The objectives should be specific enough to guide teaching and assessment. Merely writing the national, state, or local standards that relate is not sufficient, since these rarely give a detailed picture of what you really want students to understand and be able to do as a result of your unit. One of the best ways to express this for yourself and for your students is in the form of a question. However, many teachers are more comfortable with the more familiar approach of writing behavioral objectives. According to Heidi Hayes Jacobs, the 5 attributes of a well-formed objective are:

- The Subject – who is the learner;
- An action verb – denoting the behavior requested;
- A product – the observable outcome of the activity;
- The conditions – or stipulations for specific activity;
- The evaluative standard – the criteria for an acceptable level of performance in terms of quality, quantity, or time.

2. **Assessment – Evidence of Understanding.** How will you gather evidence that your students have understood the concepts you wanted them to learn and that they are able to do what you wanted them to be able to do?

[A] A single test or big project/task is not enough. Both formative and summative evaluation are important. (A simplistic definition for formative evaluation is: evaluation that occurs during the unit which is designed to help students and teachers determine how they are progressing for the purpose of improving student learning. Summative evaluation is: evaluation given at the end of the unit which is designed to assess students final understanding.) Plus, you need to provide opportunities to assess process and product through multiple means.

[B] Examine your list of objectives and brainstorm possible assessments. Besides the standard tests and quizzes, consider some of the following evaluation methods: informal observations/discussions, one minute questions, portfolios, peer review, one sentence summaries, student generated quiz questions, journals, student

performances (speeches, plays, radio shows, debates, etc), graphic organizers, socratic seminars, experiments, interviews, conferences, electronic slide shows, models, museum exhibits, role playing, etc.

[C] Determine which of the brainstormed methods seem the most promising and how much time they are likely to require. As with the objectives, make a “best guess” as to how many of these methods you have time to include. Make sure you have selected some informal and formal methods as well as ones that assess process and product.

[D] For the selected evaluation methods, ask yourself, "What should count as evidence of in-depth understanding as opposed to superficial, incomplete, or naïve understanding?" Clarify student expectations for activities/evaluation. Consider creating a model assignment, rubric or a scoring chart. This will aid the students in knowing to what quality they have to do the task and it will aid you in grading the students.

3. **Tasks** – What performance tasks and instruction are most likely to promote students achieving your stated objectives?

[A] Like thinking about objectives in Step 1, there are more possible tasks than there is time for students to complete them. Your goal is to pick the learning tasks and instruction that are most likely to achieve your desired outcomes. First, brainstorm all the possibilities, including those you have done before, those suggested by the teachers' guide or other curricular resources, and those described in NCRTEC's *Examples of Technology Use Tool*. (Some of your assessment methods listed in Step 2 should also be listed here.)

[B] Select from the possibilities those that will help you meet the following criteria. Tasks should:

- be structured in a way to focus on enduring or big ideas listed in step 1.
- connect all concepts and skills and build on one another to form a cohesive unit.
- reflect all of the objectives.
- provide at least one open-ended task.
- involve teams or pairs of students working together during at least one task.
- be challenging for all, offering extensions for more motivated learners and/or adaptations for students with special needs.
- utilize technology as an integral and authentic part of the Unit, a tool for productivity, communication, research, and/or problem-solving.

The (Important) Details

Working out these details should take far less time than figuring out The Big 3.

4. **Title** - How can you catch the students' attention?

[A] The title is your first chance to hook your students' interest. Think carefully about the focus of the unit and what is likely to catch your students' attention. Try to

find a title that is both descriptive and creative. Alliteration puns, clichés, shock, questions, and catch phrases are just a few of the many tricks you might consider.
***If you have colleagues at grade or department level, brainstorming titles can be fun and inspire adaptation and sharing.

5. **Invitation** - How can you draw the students in even deeper once you have gotten their attention with the unit title?

[A] Writing an invitation is a lot like writing the first paragraph of a story or a report. Your first goal is to make sure you have a strong lead. Depending on how you created your title, it may serve as your lead. Similar to the title, you want your first sentence to pique the students' interest.

[B] Many unit writers follow their lead with an overview of what the students will be studying followed by the essential question(s) of the unit. Others prefer to start with a scenario followed by their essential question(s) and then a description of where the students will start.

[C] However you organize your invitation, make sure to include within it a personal connection for the students.

6. **Situations** - Where will the activities take place and how much time will they require?

[A] Review the tasks and assessment methods written in Steps 2 and 3. Describe the location(s) where the students will complete the tasks (classroom, computer lab, media center, field trip, public library, etc). Describe any special needs for the physical environment.

[B] Describe the amount of time required (hours, days, weeks) for the unit and ideally for each major task.

7. **Interactions** - How will students and teachers be expected/encouraged to interact during the activities?

[A] Describe the experiences and interactions of students and teachers during the unit as a whole. Include student to student, teacher to student, and student to outside expert(s) interactions.

[B] Make sure units will involve the students in a variety of interactions. Consider structuring tasks to have students work in pairs, teams, individually, or with partners over the internet.

[C] Decide whether the tasks require the teacher to take the role of instructor, facilitator, or co-learner. Describes the teacher's specific activities and how he/she is to support student learning.

8. **Tools** - What materials/resources will be needed by the teacher and students during the unit?

[A] Review the tasks and assessment methods listed in Steps 2 and 3. List the materials/resources needed for each task. Consider using as wide a variety of resources and software as are appropriate reinforce concepts taught for all students (keep in mind differentiation based on ability and media preferences).

9. **Abstract** - How can you succinctly describe this unit to other teachers, administrators, and parents.

[A] Create a "snapshot" that succinctly summarizes the unit and that will interest others (students, teachers, administrators, parents) and makes them decide to read further. This may also help you in future years.

Evaluation

10. Try it out, reflect on it, and revise it.

Resources for more ideas:

<http://www.adprima.com/lesson.htm>

Interdisciplinary Curriculum: Design and Implementation – Heidi Hayes Jacobs
Understanding by Design – Wiggins & McTighe

Rubrics - MCREL - Kendall Marzano www.mcrel.org compendium for st

Put in a note about other methods such as concept maps being valuable.
Listing potential misunderstandings of students